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(54) **LASER BEAM WELDING METHOD AND LASER BEAM MACHINING HEAD USED FOR THE METHOD**

satisfactory and the generation of blowholes and pinholes is reduced.

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(57) Abstract:

PURPOSE: To improve welding efficiency by traveling and moving a laser beam machining head relatively on a weld line, irradiating a weld zone on works with a laser beam condensed by a condenser lens provided on the inside of the machining head to give preheating thereto and then, performing welding thereon.

CONSTITUTION: The laser beam machining head 19 is made to travel and move relatively on the weld line of the weld zone WS on the works W1 and W2. Further, the weld zone on the above-mentioned works is irradiated with the laser beam LB condensed by the condenser lens 39 provided on the inside of the machining head via a bending mirror 41 and a bending mirror 43 for irradiation to give preheating thereto and then, regular welding is performed. A scanner 47, a position detector 49 and a laser beam output controller 51 are connected to the bending mirror 43 for irradiation via a shaft 45. By this method, welding efficiency is increased and thermal distortion is reduced and adverse influence by heat such as cracking is obviated. In addition, since preheating and welding are repeated, welding quality is

